John C. Stennis Space Center

“This will be the largest test facility anywhere. Where we are standing, there will rise a great complex of buildings, testing operations . . . to provide sufficient expansion to meet future needs.”

Dr. Wernher von Braun

1961

A Message from the Director

Our unique federal city continues to feel the positive results from increased construction, expansion and collaboration. Stennis Space Center is seeing tremendous growth by our existing tenants, and we continue to welcome new agencies, companies and groups to the Stennis family.

In 2000, employment figures at the center reached nearly 4,600. And, the fiscal year 2000 economic impact figures showed that Stennis Space Center had a direct global impact of $615 million, with an impact of $438 million on local areas within a 50-mile radius.

Currently, the replacement value of Stennis Space Center is in the proximity of $2 billion. However, one cannot place a value on the number of lives touched daily by the programs and missions of all the agencies at Stennis. Our facility and the many employees who work here can be proud of our growth and prosperity, and equally as proud of the important work they do every day to heighten the quality of life for our surrounding communities.

During this past year, the NASA team successfully tested and delivered all the main engines required to support the shuttle flight schedule. This included completing the certification testing for the new configuration Block II engine. This was done in addition to very active NASA and commercial test programs that continue to utilize all of Stennis Space Center's test facilities.

In 2000, the Boeing Company dedicated its new $11 million RS-68 Engine Assembly Facility at Stennis Space Center, underscoring an unprecedented government/industry partnership. The assembly plant's opening marked the first time engines will be assembled and tested at Stennis.

Also, a new high-tech aerospace park is being constructed at Stennis by the state of Mississippi. The first major occupant will be Lockheed Martin Corporation's Advanced Propulsion, Thermal and Metrology Center that will create 270 new jobs.

Stennis has also been selected as the site for the Space-Based Laser Performance Test Facility. This facility will demonstrate the technical feasibility of a Space-Based Laser missile defense system for the Department of Defense. The project is expected to eventually create 1,000 jobs and have a total economic benefit on surrounding areas of about $100 million over five years.

In addition, a $25-million construction project is under way for the Department of Defense's Naval Small Craft Instruction and Technical Training School and Special Boat Unit 22 facilities in support of Navy SEAL activities.

The future is certainly bright for Stennis Space Center. Each day we take pride in meeting the challenges of providing excellent customer service and meeting the needs of the American taxpayers who deserve and expect high returns on their investments.

Roy S. Estess

Every astronaut rides on rocket engines tested at Stennis Space Center

NASA is an investment in America's future. As explorers, pioneers, and innovators, we boldly expand frontiers in air and space to inspire and serve America and to benefit the quality of life on Earth.

NASA's Mission at Stennis Space Center

- Managing NASA's rocket propulsion test programs and facilities for current and future space vehicles and providing test services for government and commercial customers
- Conducting Earth science applications to include a broad range of remote sensing technologies focusing on systems and tools that help monitor the health of our nation's land and coastal resources

http://www.ssc.nasa.gov
(228) 688-2211

Resident Agencies

Department of Defense

- Commander, Naval Meteorology and Oceanography Command
- Naval Oceanographic Office
- Naval Research Laboratory
- Naval Small Craft Instruction and Technical Training School
- Special Boat Unit 22, U.S. Navy
- Navy Human Resources Service Center Southeast
- U.S. Air Force Space and Missile Command
- Mississippi Army Ammunition Plant
- Defense Contract Management Command

Department of Commerce

- National Data Buoy Center, National Weather Service
- NOAA National Marine Fisheries Service
- National Coastal Data Development Center

Department of Transportation

- U.S. Coast Guard, National Data Buoy Center

Department of Interior

- USGS Water Resources Division

Environmental Protection Agency

- Environmental Chemistry Laboratory

Gulf of Mexico Program

- Environmental Protection Agency, Lead

General Services Administration

State of Mississippi

- Mississippi Space Commerce Initiative

State of Louisiana

- Louisiana Technology Transfer Office

Center of Higher Learning

- Mississippi State University
- University of Southern Mississippi (USM)
- University of Mississippi
- USM Institute of Marine Sciences
- University of New Orleans
- Pearl River Community College

Mississippi Enterprise for Technology

- Stennis Technology Enterprise Center

Institute for Technology Development

- Spectral Visions

Major Contractors

The Boeing Company

- Provides flight acceptance testing for the Space Shuttle Main Engine (SSME) and the RS-68 engine for Boeing's Delta IV launch vehicle.
- Joint member of Space-Based Laser national team.

Lockheed Martin Corporation

- **Space Operations, Stennis Programs**
  - Provides scientific, engineering and technical support to NASA and Stennis resident agencies, including propulsion testing support to NASA.
- **Propulsion, Thermal and Metrology Center**
  - Will produce propulsion systems used for satellites and other spacecraft in addition to becoming a center of excellence for calibration of tools and equipment.
- Joint member of Space-Based Laser national team.

Mason Technologies

- Serves as facilities contractor to maintain the deactivated Mississippi Army Ammunition Plant Industrial Complex for the U.S. Army.

Mississippi Space Services

- Serves as NASA's base operations services contractor, providing facilities and maintenance support to NASA and Stennis resident agencies.

OAO Corporation

- Provides computer desktop, data communications, telecommunications, administrative radio, on-site television network, and other outsourcing support services to all Stennis agencies.

OMNI-Cube

- Serves as security services contractor; responsible for the security and protection of all Stennis personnel and property.

Science Applications International Corporation

- Provides engineering and data systems support to the National Data Buoy Center.

TRW

- Joint member of Space-Based Laser national team.

United Technologies Corporation, Pratt & Whitney

- Supports development testing of newly designed turbopumps for the Space Shuttle Main Engine.

The History

In October 1961, the federal government purchased land around the Pearl River in south Mississippi to build the site for testing launch vehicles beginning with the Apollo

The construction of the facility was the largest project of its kind in Mississippi and the second largest in the United States at that time.

The Mississippi site was chosen because of its water access, essential for transporting large rocket stages, components and propellants. The area was sparsely populated, and the site provided a 13,500-acre test facility with an acoustical buffer zone of more than 125,000 acres. Today, the buffer zone is considered a national asset.

The center's primary mission was to test all first and second stages of the Saturn V rocket for the Apollo and Skylab programs.

Less than eight years later, astronauts walked on the Moon. Rocket boosters tested and proven flight worthy at Stennis Space Center safely transported them.

A new chapter in the center's history was added in May 1975 when the Space Shuttle Main Engine (SSME) was tested here for the first time. The main engines, used to boost the Space Shuttle into low-Earth orbit, are flight certified at Stennis on the same stands used for testing during the Apollo program.

Today, Stennis Space Center is one of NASA's centers responsible for the human exploration and development of space and is NASA's lead center for rocket propulsion testing.

Stennis Space Center is also NASA's lead center for remote sensing applications research and development. Personnel work with industry partners to apply remote sensing technology to increase U.S. economic competitiveness.

http://www.ssc.nasa.gov/about/history/
(228) 688-2643

An Apollo Saturn V begins its journey to the Moon.

All Space Shuttle Main Engines are tested at Stennis.

1961 NASA announces its decision to establish a national rocket test site in Hancock County, Miss.

1966 First Saturn V rocket booster (S-II-T) tested at Mississippi Test Facility in support of the Apollo program.

1971 Space Shuttle Main Engine testing assigned to the center.

1975 First Space Shuttle Main Engine tested at National Space Technology Laboratories (NSTL).

1976 Flag-raising ceremony marks the official move of the Naval Oceanographic Program to NSTL.

1978 Earth Resources Laboratory Applications Software (ELAS) developed at NSTL.

1978 First system test of Space Shuttle Main Propulsion Test Article conducted. Three Space Shuttle Main Engines tested simultaneously in a cluster configuration.

1988 National Space Technology Laboratories renamed John C. Stennis Space Center by Executive Order of President Ronald Reagan.

The NAVOCEANO/DoD Major Shared Resource Center's supercomputing capability at Stennis ranks fourth in the world.

NASA, federal, state and local leaders and corporate CEO's confirm Lockheed Martin as tenant in new high-tech industrial park.

NASA scientists and area students use remote sensing applications in the Wolf River conservation project.

The Commander, Naval Meteorology and Oceanography Command, and Stennis Space Center Director tell community leaders and the media about the $438 million annual local economic impact.

Throughout the years, Stennis Space Center has evolved into a multidisciplinary facility. It includes NASA and more than 30 other resident agencies engaged in space, environmental programs and the national defense, including the U.S. Navy's world-class oceanographic and meteorological research and development community.

1996

Naval Oceanographic Office's Primary Oceanographic Prediction System chosen as one of four DoD Major Shared Resource Centers in the nation.

1996

Stennis designated NASA's lead center to manage capabilities and assets for rocket propulsion testing.

NASA announces Stennis will conduct and manage engine component testing for development of the X-33 for the Reusable Launch Vehicle program.

1997

Stennis Space Center designated NASA's lead center for commercial remote sensing.

1998

E-1 Component Test Facility — a world class high-pressure component cryogenic facility activated.

2000

The world's fourth fastest supercomputer is installed in the Naval Oceanograhic Office/Department of Defense supercomputer center.

A $25 million construction project begins for Naval Small Craft Instruction and Technical Training School and Special Boat Unit 22 in support of Navy SEAL activity.

2000

Stennis named lead center for remote sensing applications research and development.

Lockheed Martin Propulsion, Thermal and Metrology Center at Stennis announced.

Assembly and testing of RS-68 engines for Delta IV begins at Stennis.

2001

Stennis selected as the site for the Space-Based Laser Performance Test Facility for demonstrating the technical feasibility of a Space-Based Laser missile defense system for the DoD.

Geospace Applications and Development Directorate

The Geospace Applications and Development Directorate (GADD) at Stennis Space Center is NASA's lead center for remote sensing applications research and development. Its mission is to "extend the benefits of Earth Science Enterprise's (ESE) discoveries, knowledge, technology and data beyond the traditional science community – to turn Earth science results and capabilities into practical tools for solving practical problems."

This 30-meter natural color Landsat mosaic of the U.S. is a product of NASA's Scientific Data Purchase Program.

In support of NASA's ESE, the Geospace Applications and Development Directorate at Stennis conducts a broad range of remote sensing applications projects. Remote sensing is a way to gather information about the Earth using aircraft or satellites. This emerging multibillion-dollar industry has the potential to increase U.S. economic competitiveness in world markets and also provide NASA with a reliable commercial source for scientific data.

Farmers can control cost and increase yields with prescription farming applications.

By using digital images, interpreting photographs, and comparing results to ground truth data, the GADD provides information that has real-world applications. These applications have the potential to enhance our quality of life and to create new products, services and industries based on technology developed by NASA. Some of these applications include:

- Land-use mapping
- Flood plain management
- Crop condition monitoring
- Forest management
- Environmental monitoring
- Natural hazard assessments

Geospace Applications and Development Directorate

The Geospace Applications and Development Directorate (GADD) at Stennis conducts coastal aquatic research using remote sensing technologies. Remote sensing instruments, both airborne and satellite, are integrated with scientific disciplines such as biology and geochemistry to study the role of coastal environments in marine biochemical cycles. This research is important in understanding how light is transmitted through and reflected from water and how this may be applied through the use of remote sensing in coastal environments.

NASA personnel are also involved in seatruthing, which involves going out to an area of the ocean and taking measurements of phytoplankton, sediment and other constituents of the sea. Seatruthing, used to verify and calibrate data acquired by remote sensing satellites such as the Sea-viewing Wide Field-of-View Sensor, is expected to play a major role in global climate change research.

NASA has entered into a collaborative effort with the Naval Oceanographic Office at Stennis to perform joint field surveys. These activities will provide an even better understanding of coastal environments.

NASA scientists in the GADD conduct archaeological studies using remote sensing as a tool for locating prehistoric, as well as historic, human settlements. These data are used also in studying possible effects of coastal environmental change on the establishment of known prehistoric settlement patterns.

NASA and the Navy at Stennis perform joint surveys of coastal environments.

GADD scientists use remote sensing technology in conducting archaeological studies.

http://www.crsp.ssc.nasa.gov
(228) 688-2042

Technology Transfer

The advancement and application of new technologies in government and commercial products and services have always been important to the well-being of the United States. Since its inception in 1958, NASA has been an important source of much of the nation's new technology.

NASA technology that provides real-time measurement of photochemical efficiency in phytoplankton and higher plants was developed for commercial application, in part, through the NASA Small Business Innovation Research Program at Stennis.

The Office of Technology Transfer at Stennis works to identify technology development opportunities and make these available to domestic companies as commercial products. It does so by making technologies available through public licenses and partnerships, providing technical advice and acting as a clearinghouse for technology needs.

NASA's Commercial Technology Program provides a variety of opportunities for the American public to work with NASA in the transfer of technology, including:

- **Licensing Opportunities** — NASA makes the manufacturing rights on more than 1,000 patents and patent applications available to industry through its Patent Licensing Program.
- **Dual-Use Projects** — NASA seeks commercial partners to share in the risks and costs of co-developing a technology into useful government and/or commercial products.
- **Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) Programs** — The SBIR/STTR programs were designed to provide funding for U.S. small business concerns.
- **Technology Assistance** — NASA provides assistance with technical questions or problems to U.S. companies in areas unique to NASA's mission focus.

Commercial developers work with NASA scientists to create new products.

http://technology.ssc.nasa.gov
(228) 688-1929

Commander, Naval Meteorology and Oceanography Command

The USNS Bowditch Survey Vessel

The Navy's only Mississippi-based admiral heads the Naval Meteorology and Oceanography Command. The command oversees a worldwide organization that provides oceanographic, meteorological and mapping services to naval forces around the globe.

Every Navy ship, submarine and aircraft receives products and support from this command. And, more oceanographers work at Stennis than at any other single location around the world.

Naval Oceanographic Office

The Naval Oceanographic office collects and processes ocean data.

NAVOCEANO uses ships, aircraft, remotely operated vehicles, satellites, buoys and mobile weather stations to acquire data used in oceanographic products. Additional resources furthering data collection efforts come through worldwide international agreements that facilitate cooperative surveys. Other sources, including naval combatants, U.S. government agencies and universities also augment NAVOCEANO's survey programs. Considering all the options, NAVOCEANO develops the best survey plan, optimizing an expert, cross-trained work force and the world's foremost fleet of multipurpose platforms.

Survey planners consult the vast holdings of NAVOCEANO's Matthew Fontaine Maury Oceanographic Library for historical information of tasked survey areas. With nearly 500,000 volumes, the library contains the world's premiere military

A Current, Temperature, and Depth (CTD) probe is deployed to collect data.

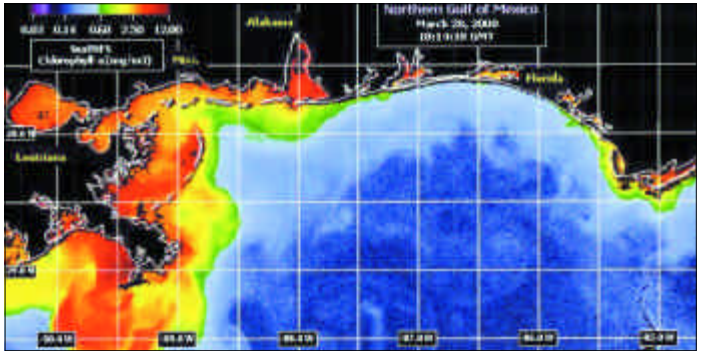
http://pao.cnmoc.navy.mil
http://www.navo.navy.mil
(228) 688-4188 (CNMOC)
(228) 688-5649
(NAVOCEANO)

collection of oceanography materials. From handwritten 18th century ship logs to CD-ROMs, the library provides wide technical diversity and is a valuable resource for surveyors, scientists and academia.

Upon survey completion, the Navy's largest supercomputing center, the NAVOCEANO/DoD Major Shared Resource Center (MSRC) that ranks among the top four worldwide in supercomputing capability, is used to process the results.

Naval Research Laboratory

The Naval Research Laboratory (NRL) is the Navy's corporate laboratory and conducts scientific research and advanced technology development directed toward maritime applications of new technologies.



NRL's Ocean Optics Section uses satellite imagery to determine water clarity — how far light travels in and through the water column.

Organizational entities located at Stennis Space Center are the Oceanography Division, Marine Geosciences Division and the Acoustics Simulation Measurements and Tactics Branch. All are part of the Ocean and Atmospheric Science and Technology Directorate headquartered in Washington, D.C.

The NRL at Stennis Space Center conducts exploratory and advanced technological development from, or appropriate to, the scientific program areas; performs scientific research and development for other Navy commands, the Department of Defense and other government agencies; develops prototype systems applicable to specific projects; and serves as the lead Navy activity for mapping, charting, and geodesy research and development for the National Imagery and Mapping Agency.

http://nrl.navy.mil
(228) 688-5328 (NRL)

Special Boat Unit 22

The Navy's Special Boat Unit 22 is the Department of Defense's agent for conducting riverine warfare around the world. Detachments are capable of performing all mission-essential tasks necessary to conduct unit-level naval special warfare operations and support other special operations forces.

The Navy's Special Boat Unit 22 conducts riverine training.

NAVSCIATTS

Students participate in classroom mapping.

The Naval Small Craft Instruction and Technical Training School (NAVSCIATTS) is responsible for small craft maintenance, riverine and coastal training for foreign friendly and allied military students. Originally located in the Panama Canal Zone, NAVSCIATTS relocated to Stennis Space Center in 1999 to take advantage of some of the finest riverine and coastal training areas in the world that are located at and around the space center.

Navy Human Resources Service Center Southeast

The Navy Human Resources Service Center Southeast provides civilian personnel and Equal Employment Opportunity support to the Department of Navy activities located throughout the southeast United States and Puerto Rico.

National Data Buoy Center

The National Data Buoy Center (NDBC), an element of the National Weather Service (NWS), is an agency within the National Oceanic and Atmospheric Administration (NOAA) and is supported by personnel and ships of the U.S. Coast Guard.

NDBC operates automated observing systems that measure weather and ocean conditions from coastal and remote marine areas. The data collected at these stations are transmitted hourly to NWS Weather Forecast Offices for use in making weather predictions, performing analyses and developing forecast models. These measurements are used in forecasting weather for the U.S., public advisories and warnings, and climate and research programs.

The National Data Buoy Center operates automated observing systems that measure environmental conditions from coastal and remote marine areas.

Environmental measurements are made by a network of moored buoys and land stations deployed in the Atlantic and Pacific Oceans, the Great Lakes, the Gulf of Mexico and the Bering Sea. These atmospheric and oceanographic measurements are transmitted hourly to the local weather forecast offices for use in analysis and forecasting.

NDBC's extensive experience in automated environmental data collection has made it a valuable resource for agencies outside of NOAA.

Support is available in the following areas:

- **Weather monitoring reports** to NASA in support of Space Shuttle launches
- **Directional-wave** data for the Army Corps of Engineers
- **Ocean color data** in support of NASA
- **Buoys and power systems** for the operation of buoy-mounted radio links for the Federal Aviation Administration
- **Shipping** assistance for the St. Lawrence Seaway
- **Commercial satellite** launch support in the Pacific Ocean

http://seaboard.ndbc.noaa.gov
(228) 688-2805

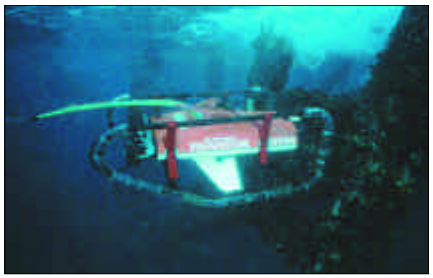
National Marine Fisheries Service

The Mississippi Laboratories, with personnel and facilities at Stennis Space Center and Pascagoula, Miss., provide information for assessment, management and conservation of living marine resources in the Gulf of Mexico, Caribbean Sea and South Atlantic Ocean.

Gulf of Mexico Regional Node

The Mississippi Laboratories of the Southeast Fisheries Science Center, a National Oceanic and Atmospheric Administration/National Marine Fisheries Service engineering component, is headquartered at Stennis Space Center. Personnel develop and apply satellite and other advanced technology to problems identified by fishery scientists and the marine industry. Geographic Information Systems, which combine satellite, research vessel and aircraft data into map formats, are now being used to answer questions about the distribution and abundance of marine mammals and fish resources in the Gulf of Mexico.

Three research vessels — the NOAA ships *OREGON II, GORDON GUNTER* and *CARETTA* — are operated from the Mississippi Laboratories Pascagoula facility.


Laboratories' technicians utilize an underwater remote operated vehicle to make stock assessments, topographic and habitat surveys.

Engineers are working with National Marine Fisheries Service biologists in Pascagoula to develop and test small tags for tracking juvenile and adult sea turtles. Through these techniques, researchers hope to learn more about the migration patterns and seasonal distribution of these endangered species.

Activities at Stennis Space Center range from development of instruments for monitoring underwater performance of nets and associated fish behavior to use of satellites to track endangered species and map environmental conditions.

http://www.nmfs.noaa.gov
(228) 688-3650

U.S. Geological Survey

The U.S. Geological Survey (USGS) is part of the Department of the Interior and is the principal federal agency responsible for collecting, analyzing and archiving data needed to plan, develop and manage water resources in the United States.

USGS at Stennis stocks over 900 different hydrologic items for nationwide distribution.

The USGS Hydrologic Instrumentation Facility (HIF) provides support to USGS and other federal agencies worldwide. The facility has the responsibility of warehousing, testing, evaluating, designing, repairing and calibrating hydrologic instrumentation used to study water on the surface, in the soil and in the atmosphere.

Instruments are evaluated for USGS acceptance.

The USGS Office of Surface Water—South (OSW) is comprised of two projects: The Hydraulic Laboratory Program which includes a 3,250-square-meter indoor lab that houses a 140-meter-long towing tank, a live-velocity jet tank and a pipe-flow facility for closed conduit tests, and two tilting flumes used in the calibration and testing of water flow, sediment measuring devices and hydraulic research; a 15.5-hectare flood plain simulation facility for large-scale hydraulic modeling and equipment testing; and the OSW Modeling Flow and Transport Project that develops models to evaluate surface water problems and provide technical assistance to USGS offices across the country.

http://www.usgs.gov
(228) 688-2607

Gulf of Mexico Program

The Gulf's diverse beauty and quality of life draw both residents and tourists, who enjoy the many recreational activities — beaches, golf courses, parks, camping facilities, water sports and ecotourism — afforded by this vast body of water. Additionally, 31 states — 65 percent of the 48 contiguous states — have rivers and streams that drain into the Mississippi River and then into the Gulf of Mexico. Census Bureau population estimates show a 14.5 percent increase in the population of the five Gulf Coast states between 1990 and 1999, from a total of 40.8 million in 1990, to an estimated 46.7 million in 1999.

The Gulf of Mexico Program is a unique non-regulatory partnership working with interests across the Gulf to link environmental protection with sound economic development of the Gulf Coast states. Issues for the new century being addressed by the program include:

- **Public Health:** Gulf coastal counties are experiencing the second fastest growth rate in the United States, but basic services such as wastewater treatment are not being satisfied in many areas.
- **Habitat:** Important habitats continue to be destroyed. Ninety-five percent of the Gulf's important recreational and commercially valuable species depend on these vital habitat areas.
- **Nonindigenous Species:** A significant pathway for the introduction of nonindigenous species, such as the zebra mussel, is through the release of ship ballast water.
- **Nutrients:** The Gulf is experiencing an increase in the number and distribution of harmful alga blooms that affect fisheries, public health and tourism.

http://www.gmpo.gov
(228) 688-1159

Environmental Protection Agency

The Environmental Protection Agency's (EPA) Environmental Chemistry Laboratory located at Stennis Space Center is a national program laboratory specializing in residue chemistry analysis under the jurisdiction of the EPA's Office of Pesticide Programs (OPP)/Biological and Economic Analysis Division in Washington, D.C.

The Environmental Protection Agency's Environmental Chemistry Laboratory is equipped with state-of-the-art sensitive and selective instrumentation, which is computerized and automated for efficiency and high sample output. Surface water, groundwater and sediment samples, as well as plant and animal tissue, are analyzed. The Office of Pesticide Programs uses the data to monitor and regulate the use of pesticides in the environment.

The laboratory's work supports the Federal Insecticide, Fungicide and Rodenticide Act and other federal antipollution laws. The laboratory analyzes environmental and human samples to determine the presence and amount of agricultural chemicals and related substances. It also performs validations of industry-submitted environmental chemistry methods for pesticides and has an internationally recognized dioxin laboratory.

Scientists work to identify pesticides in a soil sample.

http://www.epa.gov
1-800-241-1754
(Regional Office)
(601) 691-5171
(Mississippi DEQ, Jackson)
(601) 875-2893
(Mississippi DEQ, Office of Pollution Control)

Aerospace Technology Park

A new high-tech aerospace park is being constructed at Stennis by the state of Mississippi. The first occupant will be the Lockheed Martin Propulsion, Thermal and Metrology Center. Adjacent to this park will be the new Department of Defense Space-Based Laser Performance Test Facility.

Lockheed Martin Propulsion, Thermal and Metrology Center

Artist's concept of the Lockheed Martin Propulsion, Thermal and Metrology Center

Lockheed Martin's Space Systems and Technology Services companies teamed with the State of Mississippi, Hancock County and NASA to develop the planned center. Construction of the 220,000-square-foot facility began in 2001 and will produce propulsion systems, such as thrusters, used for satellites and other spacecraft the company produces. The thermal control systems produced at the facility will protect space vehicles from the extreme temperatures of the space environment.

Department of Defense Space-Based Laser Performance Test Facility

The Pentagon's Ballistic Missile Defense Organization has slated construction of a $140 million facility to test its proposed Space-Based Laser (SBL) to begin in the first quarter of fiscal year 2002. The facility will be used to evaluate beam quality, efficiency and power levels for a prototype megawatt-class hydrogen fluoride laser.

Artist's concept of Space-Based Laser defense system

Mississippi Army Ammunition Plant Industrial Complex

The deactivated Mississippi Army Ammunition Plant Industrial Complex has become a thriving industrial park catering to both high-tech and industrial tenants. In 1992, the United States Congress opened the complex to commercial enterprise under the innovative Armament Retooling and Manufacturing Support Act.

Mississippi Army Ammunition Plant Industrial Complex

It is home to new business, commercial and government alike, such as The Boeing Company's new rocket engine assembly facility. The coexistence of these entities at the facility reduces the cost to taxpayers to maintain the facility and creates jobs benefiting the economies of the surrounding communities. Employing over 900 people and using more than 50 percent of the usable space, the reuse of this vast facility has become a model for other conversion efforts within the federal government.

Located on 4,337 acres in the northern portion of Stennis Space Center, the complex retains the military mission on a small portion of the complex to produce components of the 155mm 483A1 projectile for the United States Army and NATO allies in the event of a national emergency.

(228) 689-8000

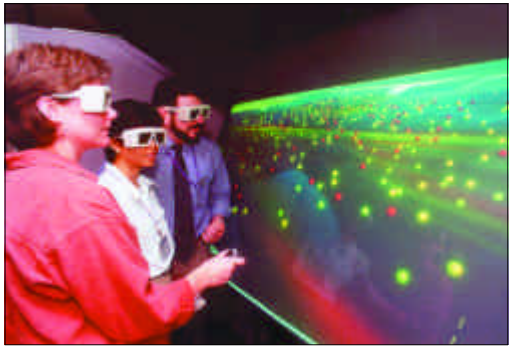
Center of Higher Learning

The Center of Higher Learning (CHL) is an academic consortium that supports the educational and research needs of the agencies at Stennis Space Center with an average of 700 students per year.

CHL offers advanced degrees in applied physics, engineering, applied science, hydrography, marine science, scientific computing and selected undergraduate courses. A masters of business administration and software engineering certficate programs are planned. These programs are offered through Mississippi State University, University of Southern Mississippi, University of New Orleans and Pearl River Community College.

Research and development focuses on areas that complement the major scientific and educational programs at Stennis. These include High Performance Computing, Geographic Information Systems and Remote Sensing Laboratory and the Immersive Visualization Laboratory.

CHL has an outreach division that works with the state of Mississippi and its universities to link their outreach activities with technologies at Stennis.



Through CHL's Immersive Visualization Laboratory, students analyze ocean data.

http://www.chl.state.ms.us
(228) 688-3366

State of Mississippi

The State of Mississippi is represented at Stennis Space Center by the Mississippi Enterprise for Technology and the Mississippi Space Commerce Initiative (MSCI). Both organizations have had significant success in Mississippi as statewide leaders in technology-based economic development.

The Mississippi Technology Transfer building represents a $4.4 million investment by the state.

- **Mississippi Enterprise for Technology**

  The Mississippi Enterprise for Technology (MsET) is a nonprofit organization dedicated to creating high-skill, high-wage jobs in Mississippi. MsET helps industry use the scientific and technical expertise, facilities and other resources of NASA, the U.S. Navy and their prime contractors, federal laboratories, the Mississippi Development Authority, and Mississippi colleges and universities.

  MsET Technology Incubation — is a full-service network for technology-based companies. Entrepreneurs requiring continuous access to business, federal laboratory or university resources may apply to become enterprise tenants. Technical experts and business professionals evaluate tenant applications.

  MsET Technical Services — provide Mississippi businesses access to fee-based technical services available at Stennis Space Center, such as mechanical and electrical shops, specialized laboratories, prototyping, and instrument calibration services.

- **Mississippi Space Commerce Initiative**

  MsET serves as the industry cluster manager under contract to the Mississippi Space Commerce Initiative. This partnership provides technical and business services to remote sensing companies at Stennis Space Center. MSCI is sponsored by the University of Mississippi. The program receives the majority of its funding from NASA and the State of Mississippi. The mission of MSCI is to build a satellite imagery industry consisting of several companies across the state.

  These companies may be branch operations of larger national corporations or local startups. MSCI will operate a research institute to assist in the development of new satellite imagery products. The member companies will then partner with MSCI and MsET to market these new products from a Mississippi operation. MSCI members may also be tenants in the MsET network.

http://www.mset.org
(228) 688-3144

State of Louisiana

The Louisiana Technology Transfer Office (LTTO) located at Stennis Space Center assists in the transfer of NASA-developed technology to business, industry, academic institutions, research facilities and individuals in Louisiana.

The office is funded by the Louisiana Department of Economic Development and operated by the Louisiana Business and Technology Center, a cooperative endeavor between Louisiana State University, the Louisiana Public Facilities Authority and the Greater Baton Rouge Chamber of Commerce. Federal laboratories are also accessible to foster and promote state, local and business efforts in economic development for use in problem solving, innovation and technology transfer.

Through the LTTO, the technical requirements of Louisiana businesses can be matched with NASA and the more than 30 agencies in residence at Stennis Space Center. The LTTO actively seeks to pair Louisiana companies with technology licensing opportunities and Small Business Innovative Research solicitation topics.

The Louisiana Technology Summit attracted business, industrial and academic leaders from across the state.

http://www.ltto.org
(228) 688-1117
(225) 344-5555

NASA Office of Education

An integral part of the Stennis community is its education programs. The Office of Education is dedicated to fostering a continued growth in student participation and success in the areas of science, mathematics, geography and technology.

NASA's Educator Resource Center (ERC) offers a vast collection of material for educators, including hundreds of videotapes, computer software, printed materials and lesson plans that reflect the most recent scientific discoveries about space, oceans and the Earth. The ERC also provides professional development opportunities for educators through workshops and seminars. A computer center and the Mississippi Interactive Video Network help teachers integrate state-of-the-art technology into their classrooms.

NASA played a key role in creating the Gulf Coast Education Initiative, an innovative effort to promote and support efforts of six counties in Mississippi and one parish in Louisiana to develop a quality education system. This program was designed to ensure that students master the skills necessary for future success in America's high-tech environment.

The Office of Education at Stennis Space Center is also responsible for the design and implementation of other educational programs aimed at improving America's schools and supporting the nation's education goals. Programs supported or implemented at the local, state and national level include:

- **National Workforce Development Education and Training Initiative** — brings remote sensing education to students to ensure U.S. competitiveness in the remote sensing job market.
- **Computers for Learning Program** — provides decommissioned government computers to schools.
- **FIRST (For Inspiration and Recognition of Science and Technology) Robotics** — encourages students to learn more about science and technology.
- **NASA Student Involvement Program** — links students with NASA's mission of research, exploration and discovery.
- **Support to Blue Ribbon schools** — recognizes schools that serve as models of commitment to academics for all students.
- **Summer High School Apprenticeship Research Program** — pairs students with NASA mentors to increase understanding of mathematics and science.

NASA's partnerships helped create the Choctaw Tribal School Interactive Classroom in Philadelphia, Miss.

Stennis' Office of Education is dedicated to fostering growth in the areas of science and math.

NASA engineers assist Gulfport, Miss., students in winning a regional robotics competition.

http://wwwedu.ssc.nasa.gov
(228) 688-2091
(228) 688-3842
http://education.ssc.nasa.gov/htmls/trc/trc.htm
(228) 688-3338
1-800-237-1821, option 2 (Mississippi and Louisiana only)

Stennis Space Center's redesigned visitor center, StenniSphere, opened in the spring of 2000. Named Mississippi's Travel Attraction of the Year 2000 by the Mississippi Tourism Association, StenniSphere offers 14,000 square feet of interactive displays and exhibits from NASA, the Naval Meteorology and Oceanography Command and other resident agencies. StenniSphere, which saw more than 225,000 visitors in its first year, also features motion simulator rides, the RocKeTeria restaurant and Space Odyssey Gift Shop.

StenniSphere was named Mississippi's Travel Attraction of the Year 2000.

The visitor's journey begins with a narrated tour of Stennis Space Center at the Launch Pad located at the Mississippi I-10 Welcome Center in Hancock County. A bus tour of the nation's largest rocket test complex precedes the stop at StenniSphere. Several times a year, the public is invited to view an engine test at Stennis.

StenniSphere's exhibits allow visitors to: test fire a Space Shuttle Main Engine (SSME) and mix "rocket fuel" in the Test Control Center; go aboard the International Space Station and experience how astronauts live and work in space; take the controls in the Space Shuttle's cockpit and bring it in for a landing; and check on the weather back home on Earth and travel under the sea with the Naval Meteorology and Oceanography Command.

Dedication of NASA's Lunar Lander exhibit at the Mississippi I-10 Welcome Center in Hancock County.

Recently opened in 2001 is a new exhibit entitled "Caring for the Gulf Together" that shows how Stennis resident agencies support Gulf of Mexico activities. Another exhibit entitled "NASA's Technology — An Investment in America's Future" shows the benefits derived from human exploration and development of space. It highlights more than 30 years of NASA technologies brought from outer space into our homes. "Touching Tomorrow…Today" is a new exhibit sponsored by NASA's Office of Education, highlighting the importance of sharing tomorrow's vision with today's youth and educators.

Visitors at StenniSphere are educated and entertained with interactive exhibits and displays.

Outdoor exhibits include a Space Shuttle Main Engine; a solid rocket booster; an F-1 engine that powered the Saturn V rocket to the Moon; a Lear Jet aircraft like the ones used to gather remote sensing images; and a futuristic Martian base, "1 Main Street, Mars."

StenniSphere is open daily from 9 a.m. to 5 p.m. except Easter, Thanksgiving Day, Christmas Eve, Christmas Day and New Year's Day. Admission is free.

http://www.ssc.nasa.gov/public/visitors/
(228) 688-2370
1-800-237-1821, option 1
(Mississippi and Louisiana only)

Stennis Space Center Community Impact

- Membership and participation in four chambers of commerce in two states
- Combined Federal/United Way Campaign
- Annual host to Mississippi Area III Special Olympics
- Host to quarterly blood drives
- Public visitor center open daily with exhibits, tours, outdoor park and tailored K-8 education programs
- Workshops and classroom materials for educators of all grades
- Educator computer training for integrating technology into classrooms
- Gulf Coast Education Initiative Consortium partner
- Global electronic expeditions for students and teachers
- Astro Camp week-long camp and Astro Camp Saturday
- Exhibits at local and state events
- Direct transfer of surplus federal equipment to schools
- Science fair judges/career day participation/mentor program
- Speakers Bureau participation
- Mutual aid agreements with area communities
- Civil defense planning and shelters
- Photographic enhancement assistance to area law enforcement
- Employee participation in community leadership positions in schools, churches, clubs and sports

Each year, Stennis hosts the Area III Special Olympics. Athletes from Hancock, Harrison, Pearl River and Stone counties participate in the annual competition.

More than 1,500 scouts participate annually in two days of camping events at Stennis.

StenniSphere programs reach more than 225,000 visitors each year.

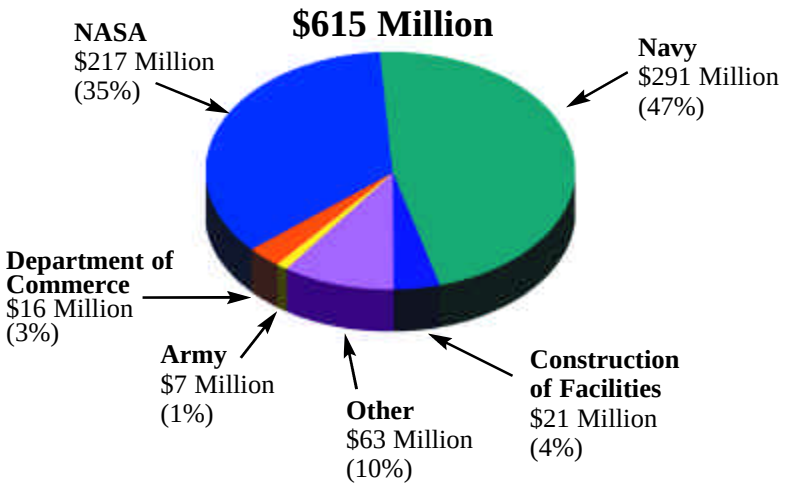
Partners for Stennis

Partners for Stennis is a group comprised of leaders from the Mississippi and Louisiana communities surrounding Stennis formed to support and promote the development of the numerous agencies and programs located at the John C. Stennis Space Center. The cooperative advocacy organization informs the public of the benefits of the center and also serves as a resource group to those businesses with the potential to relocate to the space center.

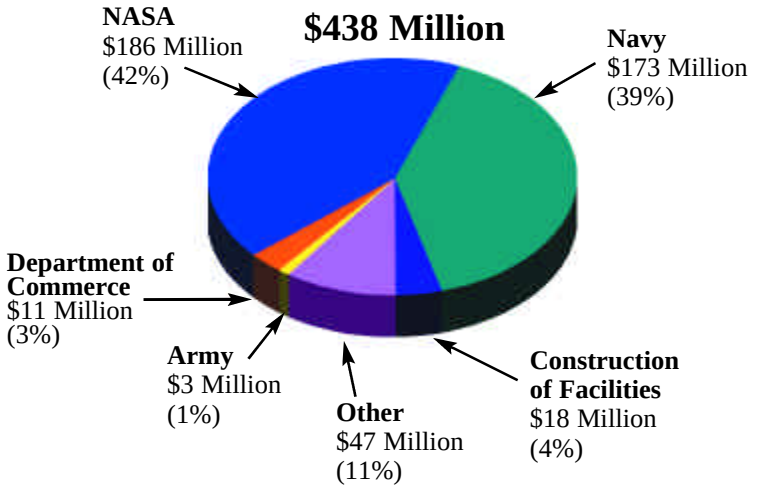
http://
www.partnersforstennis.org/
(228) 688-1117

Stennis Space Center Economic Impact FY2000

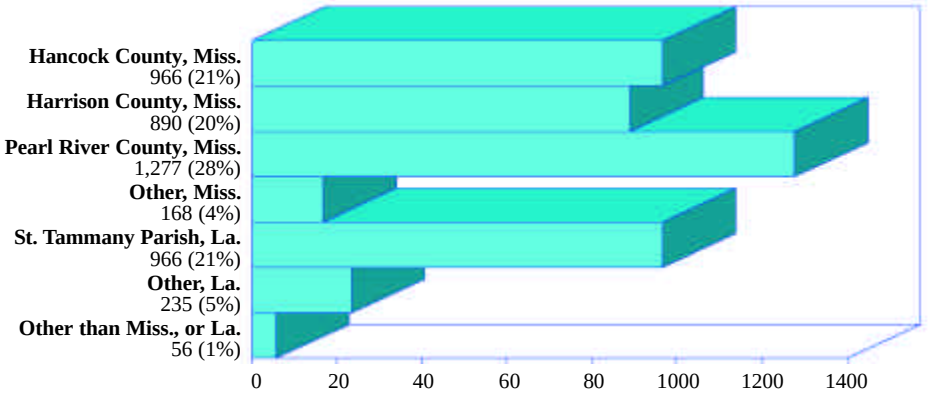
Direct Global Economic Impact



Direct Economic Impact 50-Mile Radius



Residential Distribution of Personnel



Employee Skills

Scientific/Engineering	37%
Business Professional	18%
Technician/Craft/Production	29%
Clerical	10%
Other	6%
Total	100%

Civil Service/Military Education

	Stennis Distribution	NASA Only
Doctorate Degrees	6%	5%
Master's Degrees	18%	27%
Bachelor's Degrees	34%	48%
Associate's Degrees	9%	3%
Some College	16%	9%
High School Diploma	16%	8%
Other	1%	0%
Total	100%	100%

Economist's Viewpoint*

- If Stennis had not been in operation in 2000, considering both direct and indirect effects, a very conservative estimate of reduction in employment for the local area would be 24,121 jobs.
- A similar conservative estimate indicates that personal income would have been reduced by more than $807 million, and retail sales would have been reduced by $323 million.
- It is estimated that Stennis has a tax revenue impact on local government revenues of $87 million.

*Study by Dr. Charles A. Campbell, Associate Professor of Economics, Mississippi State University, January 2001.

This satellite image of the Louisiana and Mississippi Gulf Coast was taken by the LandSat Thematic Mapper. Lake Pontchartrain is the large body of water to the left of the center. New Orleans is located in the pink area at the bottom, and Bay St. Louis, Miss., can be seen in the upper right.

John C. Stennis Space Center uses aircraft and satellites to take highly detailed images of the Earth's surface as part of NASA's remote sensing program. Remote sensing information can be used by local and federal governments and industry in such areas as emergency management, roadway planning, or assessment of natural or manmade disasters.